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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,968	08/31/2000	Vishnu K. Agarwal	98-0616.12	4756

7590 09/22/2004  
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EXAMINER

DIAZ, JOSE R

ART UNIT PAPER NUMBER

2815

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/652,968

Applicant(s)

AGARWAL, VISHNU K.

Examiner

José R. Díaz

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 6/29/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 43, 78, 84, 86 and 87 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43, 78, 84, 86 and 87 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/2/03; 1/26/04; 7/26/04</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,607,975 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '975 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '975 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Pat. '975 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

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3. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,720,215 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '215 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '215 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Pat. '215 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

4. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,468,854 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '854 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '854 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Pat. '854 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

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5. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,472,264 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '264 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '264 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Pat. '264 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

6. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,479,340 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '340 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '340 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to

modify Pat. '340 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

7. Claims 43, 78, 84, and 86-87 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,489,194 B1 in view of Takanabe et al. (US Pat. No. 5,963,826).

Pat. '194 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Pat. '194 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Pat. '194 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

8. Claims 43, 78, 84, and 86-87 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4, 46, 77, 81-85 and 89-92 of copending Application No. 09/652,993 in view of Takanabe et al. (US Pat. No. 5,963,826).

Application No. 09/652,993 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Application No.

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09/652,993 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Application No. 09/652,993 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

This is a provisional obviousness-type double patenting rejection.

9. Claims 43, 78, 84, and 86-87 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 54, 56, 76, 78-83, 85-86, and 89-99 of copending Application No. 09/652,580 in view of Takanabe et al. (US Pat. No. 5,963,826).

Application No. 09/652,580 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Application No. 09/652,580 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Application No. 09/652,580 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

This is a provisional obviousness-type double patenting rejection.

10. Claims 43, 78, 84, and 86-87 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 80-84, and 88-107 of copending Application No. 09/652,579 in view of Takanabe et al. (US Pat. No. 5,963,826).

Application No. 09/652,579 claims the steps of layering a first conductive material, introducing the first conductive material to methylsilane, and layering a second conductive material over the first conductive material. However, Application No. 09/652,579 does not claim the step of directing UV light toward the methylsilane. Takanabe et al. teaches that it is well known in the art to treat the conductive layer with UV light to reduce the contact resistivity of the conductive layer (see col. 5, lines 31-43). The ordinary artisan would have been motivated to modify Application No. 09/652,579 in the manner described above for at least the purpose of reducing the contact resistivity of the conductive layer (see col. 5, lines 31-33).

This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

11. Applicant's arguments filed June 29, 2004, with respect to claims 43, 78, 84, and 86-87 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Joshi et al.



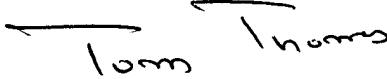
***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRD  
9/19/04

  
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